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ABSTRACT

This report offers an economic overview of Washington's information technology (IT) industry, stating that between 1990 and 1997 the state added 36,000 IT jobs and moved the state from 21st to 16th nationally in high-tech employment rankings. Washington also took the lead in high technology salaries, with an average wage of $81,000 in 1997. Furthermore, enrollments in IT increased 91% between 1995 and 1999, making IT the fastest growing area in the two-year college system. In light of these trends, this report presents recommendations and strategies for improving the quality of IT instruction and learning in the Washington State Community and Technical Colleges System (WSCTC). A committee comprised of IT industrial representatives, college presidents, and WSCTC Board members met to discuss ways to help the community college system meet IT industry needs. Four general recommendations came from the committee: (1) increase IT faculty compensation to keep up with private industry salaries and help retain quality instructors; (2) provide more professional development on IT innovations and changes to keep faculty up to date; (3) recruit and hire more IT instructors with industry experience; and (4) upgrade college facilities to improve IT capability and stay current with the IT industry. Tables with specific strategies for each recommendation are included in the report. Feedback from an IT faculty forum are also included. (MKF)

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# Increasing Information Technology Program Capacity In the Community and Technical College System

*Recommendations and Strategies for Closing the Information Technology Skills Gap in Washington State*

**Final Report**
**June 28, 2000**

Washington State
Board for Community and Technical Colleges
P.O. Box 42495
Olympia, WA 98504-2495

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## Executive Summary

Current industry projections, research reports, and labor market forecasts all attest to the large and growing gap between the supply of skilled information technology (IT) employees and industry demand. While the actual numbers forecast by these reports vary, it is generally acknowledged that in Washington State the demand-supply gap is severe and is likely to worsen over the next decade if efforts to prepare larger numbers of skilled IT workers are not initiated.

In 1999 a committee comprising information technology industry representatives, college presidents, and State Board staff met to discuss ways for the college system to address ways to expand the college system's capacity to meet IT industry demand. A draft report requested by the committee revealed that the most prominent findings related to IT faculty recruitment and retention: Faculty compensation, professional development and industry support were identified as central to building capacity in information technology programs.

Subsequent discussions with IT faculty, faculty union leaders, industry representatives college presidents and vocational directors clarified the initial findings and served to identify specific recommendations and potential strategies that individual colleges and the college system could employ to meet these challenges. The general recommendations contained in this report include the following:

1. **Faculty Compensation**: Increase IT instructor compensation to bring into closer alignment with the private sector.

2. **Professional Development**: Increase professional development opportunities to assure that instructors continuously update and maintain skills and knowledge.

3. **Faculty Recruitment/Industry Support**: Increase the number and percentage of instructors to boost instructional capacity, including partnerships with industry and greater flexibility.

4. **Facilities and Equipment**: Increase public and private-sector support for new and upgraded facilities, equipment and program delivery methods to expand capacity, stay current with industry, and improve faculty recruitment and retention.

Specific strategies for each of these recommendations are summarized in Table 1 (attached). A final recommendation of this report is to convene additional meetings of various stakeholder groups for the purpose of discussing how the strategies identified in the report can most effectively be implemented to produce the desired results. Closing the state's IT skills gap will require deliberate long-range planning and implementation, continued collaboration, and effective leadership from all stakeholders.

## Table 1
## Information Technology Report Recommendations

06/01/01

(**BOLD** recommendations were endorsed by members of all stakeholder groups)

| Recommendations | College Strategies | System Strategies |
|---|---|---|
| ***Faculty Compensation***<br>Increase IT instructor compensation to bring into closer alignment with the private sector. | • **Support public-private endowment or matching program to provide additional funds for faculty pay, stipends.**<br>• **Negotiate a placement fee or bonus agreement with industry: Industry pays college of origin for each new hire. College uses funds for faculty pay/stipends.**<br>• Adjust local contracts to implement differential salary options for high demand faculty.<br>• Compensate full-time instructors who moonlight at the full-time rate.<br>• College/Industry Alliance: Recruit and pay faculty/staff enriched salaries (non-tenure track) to develop 'turnkey' curriculum that meets industry standards.<br>• Replace nine-month contracts with eleven-month contracts, maintaining full-time rate. | • **Support public-private endowment or matching program to provide additional funds for faculty differentials, stipends, etc.**<br>• Pursue increased faculty funding from the Legislature.<br>• Support new language allowing differential salaries in system budget appropriation.<br>• Support legislation to establish a differential salary budget pool for the system that can only be used to adjust salaries for faculty in IT and other high demand fields.<br>• Support an IT industry Institute model system-wide to build support for pay increases through outside contracts, stipends. |

## Table 1
## Information Technology Report Recommendations

06/01/01

(**BOLD** recommendations were endorsed by members of all stakeholder groups)

| Recommendations | College Strategies | System Strategies |
|---|---|---|
| ***Professional Development***<br>Increase professional development opportunities to assure that instructors continuously update and maintain skills and knowledge. | • **Increase resources and time available for professional development and industry training (educator internships).**<br>• Support paid sabbaticals for back-to-industry experiences.<br>• Support for faculty to attain vendor and industry certifications.<br>• Provide re-training for non-IT faculty who want to expand their potential or become IT instructors.<br>• Apply funds available through Exceptional Faculty Awards to support upgrade training for IT faculty/cross-training for non-IT faculty.<br>• Allow faculty to attend industry/vendor-sponsored IT training on a space available basis. | • **Support for forgivable loan/grant program to pay for faculty training/certification.**<br>• Work with industry associations to build a menu of industry-based professional development opportunities for IT faculty (educator internships). |

## Table 1
## Information Technology Report Recommendations

08/01/01

(**BOLD** recommendations were endorsed by members of all stakeholder groups)

| Recommendations | College Strategies | System Strategies |
|---|---|---|
| ***Faculty Recruitment/Industry Support***<br>Increase the number and percentage of instructors to boost instructional capacity, including partnerships with industry and greater flexibility. | • **Use loaned or contracted staffs from industry with expertise in specific IT areas to augment the instructional work of regular college faculty; provide teacher training for industry professionals.**<br>• **Encourage industry partners to provide release time or 'industry sabbaticals' for IT professionals to teach college courses; provide teacher training.**<br>• Increase recruiting/marketing to attract new full and part-time faculty.<br>• 'Capture' and train retiring IT professionals to teach.<br>• Use student instructors from four-year programs and graduate schools to support and/or teach two-year college IT courses. | • **Support an industry tax credit for companies who are willing to provide paid release time to employees to teach college IT courses. Direct tax savings into IT endowment or matching fund for IT faculty.**<br>• Work with industry associations to build a 'menu' for member companies to offer industry support to colleges, i.e., employees to teach courses or provide instructional support.<br>• Award free courses/tuition to companies who release employees to teach courses.<br>• Expand articulated programs (i.e. Tech Prep, college in the high school) to help students complete lower-level IT courses in high school and to free-up time for college IT faculty to teach upper-level courses. |

## Table 1
## Information Technology Report Recommendations

04/01/01

(**BOLD** recommendations were endorsed by members of all stakeholder groups)

| Recommendations | College Strategies | System Strategies |
|---|---|---|
| *Facilities and Equipment* | • **Create dedicated funds to support new purchases and upgrades in hardware, software, related materials and lab techs needed to stay current with industry, promote faculty recruitment, retention.**<br>• Maximize use of existing facilities and equipment by analyzing current utilization and identifying opportunities to schedule additional class sections during periods of low usage.<br>• Create and use student projects to provide applied experiences to students and to supplement technical support for upgrading and maintaining IT facilities and equipment.<br>• Encourage shared facilities between IT and related departments, and between colleges and universities, secondary schools, continuing education, and private industry. | • **Collaborate with industry to help identify college system needs, and to build support for contributions of new equipment, software, supplies and technical support from vendors.**<br>• Collaborate with industry to support donations of new and used equipment to support student projects.<br>• Increase the development and availability of internet and distance learning-based IT courses and programs across the system. |

## Introduction

Rapid growth in the nation's Information Technology (IT) industry has dramatically increased the demand for skilled employees in virtually all IT-related occupations. A recent report by a leading IT industry association claims that employers wi'l need around 1.6 million IT workers this year, with nearly half of these jobs going unfilled because demand far exceeds the supply of skilled workers.[1]

Washington State's IT industry has expanded significantly over the past decade as well. Between 1990 and 1997 Washington added 36,000 IT jobs, moving the state from 21st to 16th nationally in high-tech employment rankings.[2] At the same time, Washington also took the lead in high technology salaries, with one industry report citing an average wage of $81,000 in 1997.[3] This compares to the average salary of $53,000 for all high-tech workers in the US, and around $30,000 for all private sector workers in the nation.

### IT Skills Gap

The problem facing the state's IT industry is not merely a labor shortage, but an IT skills shortage: too few of Washington's citizens have the requisite skills needed to succeed in new high-skill IT jobs. Current economic conditions in Washington State magnify the IT skills gap: A robust economy, extremely low unemployment (around 4.5 percent) and accelerated growth in established IT firms and new start-ups has widened the gap between industry demand for skilled IT employees and the supply of qualified workers.

A number of different industry report substantiate the severity of this skills gap:

- **Washington's software industry –**

One study of the state's software industry[4] indicates over 7,000 unfilled current positions in the state and the potential growth of 64,000 additional new positions in the next three years if qualified applicants can be found.[5] One quarter (16,000) of these positions are expected to require two years or less of training. Table 2 below shows a list of these positions, with expected openings, where a significant percentage of employers require two years or less of education and training—the focus of most two-year community and technical college training.

- **Washington Software Alliance –**

A survey conducted by the Washington Software Alliance compares the projected openings (demand) for positions that require an Associate degree to the supply from all in-state higher education institutions (public and private). This study concluded that the gap between supply and demand will be about 1,750 per year. While this number is only slightly larger than the software industry study cited above, this figure represents the demand only from companies that belong to the Software Alliance – not all of Washington's software companies are Alliance members. Furthermore, it does not consider positions that require less than an Associate degree—certificate programs in IT meet the requirements for many IT and related positions. Thus, actual demand is probably understated.

**Table 2**

Current Offerings, Three Year Forecast and
Required Post-secondary Education for IT Occupations[6]

| Job | Current Job Openings | Projected Hiring | % of Firms Requiring 2 Years or Less Post-secondary Education |
|---|---|---|---|
| Helpdesk Technician | 201 | 3,412 | 75% |
| QA Analyst / Test Engineer | 392 | 3,757 | 55% |
| Web Developer | 434 | 2,207 | 59% |
| Multimedia Developer | 95 | 683 | 45% |
| Technical Editor / Writer | 188 | 1,094 | 40% |
| System Engineer | 339 | 1,435 | 39% |
| Technical Consultant | 356 | 3,387 | 35% |
| Jr. Software Developer | 1,368 | 5,361 | 39% |
| Sr. Software Developer | 1,151 | 6,891 | 23% |
| Manager / Lead Developer | 151 | 2,090 | 15% |
| Technical Program Manager | 531 | 7,953 | 17% |
| Product Manager / Technical Sales | 151 | 750 | 21% |
| Total | 5,362 | 39,172 | |

It should be noted that many of the state community and technical colleges offer programs preparing students for the positions described in Table 2.

**An Economic Imperative**

The negative effect of an IT skills shortage on the state's economy is considerable. Many companies already recruit out-of-state and internationally to fill these relatively high paying positions. Shortages of skilled workers have caused many firms to delay growth plans or look to other states or countries for future expansion. And, while the shortage of technically skilled workers is especially acute in computer hardware, software, and information systems companies, IT jobs exist in virtually every industry in the state—from banking to manufacturing and education—and are not specific to the computer hardware and software industry.

In short, while it is generally acknowledged that the IT industry has a positive economic multiplier effect that extends far beyond the IT industry, IT skill shortages have similar yet negative consequences for the state's economy as a whole.

**Demand Outstripping Supply**

Unfortunately, the rate at which the state's community and technical colleges are preparing new workers to fill existing IT openings and upgrading the skills of an existing workforce is failing to keep pace with demand. Indeed, internal projections and external reports suggest that growing demand for new IT workers is likely to make the problem even worse.

Unless community and technical college output increases significantly, at the current rate this leaves an average shortfall relative to industry requirements of around 2,472 openings per year until 2006.[7] It should be noted that this estimate relies on state employment figures using traditional job classifications that are considered by many to understate demand because many of the newest technology positions are difficult, if not impossible, to track. For example, web designers are classified as artists; it is unclear how network administrators are classified.

**Rising to the Challenge**

The industry reports and labor market forecasts cited above underscore the challenges facing the state's higher education system. Additional resources provided by the Legislature to the two-year college system and four-year institutions over the past few years is supporting an unprecedented expansion of existing IT programs and new program start-ups. Clearly, employers, workers, legislators, and community leaders see the community and technical colleges as a primary resource for closing the IT skills gap. However, as the various industry reports suggest, the two-year college system's ability to reduce the demand-supply gap is complicated by several key factors:

- Rising wages in information technology have created a significant salary gap between faculty and their peers in the private sector. This has made it difficult for colleges to attract and retain qualified IT faculty.

- Growth in technology has created additional demand for computers and high tech equipment in most training programs. Limited facilities and equipment funding has left colleges unable to keep up with the demand for equipment or dedicated lab space. As a result, colleges have been unable to expand offerings as fast as needed.

- Rapid advances in technology have made it difficult for colleges to keep facilities and equipment up to date. Retraining requirements for IT faculty have also risen dramatically as technology changes.

Despite these ongoing challenges, there is some evidence that state investments in increased enrollment and program expansion to two-year colleges are beginning to pay off: Recent emphasis and funding to expand information technology programs have led to a dramatic increase in college IT enrollments (Fall)–from 3,733 in 1995 to 7,135 in 1999—an increase of 91 percent—making IT the fastest growing program area in the two-year college system.[8] Additional investments in IT program expansion and new startups during 1999-2001 will increase IT enrollments even further.

These new investments have enabled the colleges to expand capacity to enroll additional students in new programs—including new Associate degree and shorter-term certificate programs that focus specifically on industry skill requirements in new and emerging IT occupations. Colleges are just beginning to produce new degree and certificate completers, and program completion rates are increasing. For instance, college system data shows a dramatic (91 percent) increase in the number of IT Associate degree and certificate completion rates over the past six years (1994-99). This trend is consistent with the growth in overall numbers of completion rates, which now stand at around 1,300 IT degree and certificate completers each year.

Even with these new investments and the positive enrollment and program completion trends, however, the gap between industry's projected demand for skilled IT workers and the two-year college system's ability to supply qualified workers remains so large that initiatives to expand IT program capacity even further are still needed. At issue are two strategic questions:

1. Where should efforts to expand capacity be focused?
2. How can those efforts be most effectively implemented?

## Method and Approach

### Defining the problem and solutions

In 1999 a committee comprising information technology industry representatives, college presidents and State Board staff met to discuss ways for the college system to address ways to expand the college system's capacity to meet IT industry demand. One recommendation of this group was to commission a study that would begin to identify the factors and potential solutions to bridging the skills gap. A consultant was retained and a draft report was produced in January 2000. Subsequent discussions with industry representatives, college presidents and state board staff provided additional clarity to the initial findings and served to identify specific recommendations and strategies that individual colleges and the college system could employ to meet these challenges.

Consultant's draft report: The report identified the broad economic context for the IT skills gap and suggested key factors and strategies that the state's community and technical college system should consider to bridge the demand-supply problem. The most prominent findings related to IT faculty recruitment and retention: Faculty compensation, professional development and industry support were identified as central to building capacity in information technology programs. One key recommendation of this report was that closing the demand-supply gap will require increases in IT instructional staffing of between 140 to 200 FTEFs, or approximately 138-154% of Fall 1998 levels.[9]



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Faculty Input: Representatives from the Washington Federation of Teachers, Washington Education Association, college vocational directors, and State Board staff collaborated to design and conduct four facilitated focus group meetings with 75 IT faculty to discuss recruitment and retention issues. Providing a structured approach for receiving this input was important because it enabled collection of data directly from existing IT college faculty, and provided a method for validating the input and recommendations from non-faculty groups. Analysis of faculty input (see Attachment 1) confirmed most of the issues identified in the consultant's report and subsequent discussions with other stakeholders.

Analysis and Consolidation: Input from the IT faculty focus group meetings was integrated with draft recommendations from the consultant's report and feedback from subsequent discussions with industry representatives, faculty union leaders, college presidents, and state board staff. The results are presented below.

## Results

### Increase Capacity

For the purposes of this report the findings are identified and reported in priority order based upon input from members of all stakeholder groups (industry, IT faculty, college administrators, and faculty union leaders). Within each category several strategies identified by the various stakeholders are listed. These strategies are divided into two levels: those that may be employed by individual colleges, and those that may be employed by the community and technical college system as a whole (All findings are presented in summary form in Table 1).

The categories and recommended strategies are described below. Narrative descriptions are provided only for those strategies that were endorsed by members of all stakeholder groups.

**Recommendation 1: Faculty Compensation: Increase IT instructor compensation to bring into closer alignment with the private sector.**

The most prominent finding by members of various stakeholder groups was the large and pervasive differences in total compensation between two-year college IT faculty and private-sector IT professionals. Compensation was the most frequently discussed issue by IT faculty (see Attachment 1). While the actual numbers reported by industry associations vary (depending on definitions and assumptions), the differences in annual average total compensation between IT professionals and two-year college IT faculty are large, even after taking into account additional faculty pay from summer teaching and 'moonlighting.'

The most commonly-referenced strategies for how individual colleges can support this recommendation includes the following:

1. **Support a public-private endowment or matching program to provide additional funds for faculty pay, stipends**. This strategy would require individual colleges to seek private-sector contributions, matching funds or grants that could be used to augment existing public funding to boost total annual compensation for IT faculty (including wages, benefits, summer teaching, extra duties). Funds generated by an endowment or matching program could also be used to support IT faculty stipends for special projects (i.e. curriculum development, technology training, etc.) as determined by the college.

2. **Negotiate a placement fee or bonus agreement with industry**: Most IT employers already use placement agencies to supplement their recruitment efforts, and this practice that is even more common among companies faced with a tight labor market. Under this scenario, colleges would negotiate a set fee that each employer would pay to the college of origin for each successful new hire. Negotiations might be conducted company by company or through an industry association on behalf of its members. A similar approach could be employed by colleges: negotiate a fee structure and conditions individually or collectively.

The most commonly referenced system strategy for boosting faculty compensation consisted of the following:

1. **Support public-private endowment or matching program to provide additional funds for faculty differentials, stipends, etc.** This strategy mirrors that described above for individual colleges, except that the focus would be on identifying and securing private-sector or matching funds on behalf of the entire two-year college system. Presumably endowment funds could then be allocated to individual colleges using an agreed-upon method that responded to the unique needs of individual colleges and assured some measure of resource equity across the college system. Individual colleges might use these funds to support IT faculty salary increases, stipends or in other ways that best meets their needs.

**Recommendation 2: Professional Development: Increase professional development opportunities to assure that instructors continuously update and maintain skills and knowledge**. Professional development was a topic that generated much discussion among members of each stakeholder group. All stakeholders agreed that the rapid rate of change in the IT industry requires that IT faculty receive frequent and ongoing training and retraining to keep pace with industry. Faculty frequently reported too little time and resources for professional development—often because of high workloads due to IT faculty shortages. Faculty are intent on staying current with industry.

The most commonly referenced strategy for how individual colleges can support this recommendation included the following:

1. **Increase resources and time available for professional development and industry training (educator internships):** College strategies for increasing

professional development range from re-directing existing resources to support increased training for IT faculty, to identifying additional public and private-sector funding to support expanded opportunities. Several different approaches were identified by stakeholder groups (see Table 1), yet most are contingent on using existing funds differently or securing new funds.

The most commonly-referenced system strategy to support this recommendation included the following:

2. **Support for forgivable loan/grant program to pay for faculty training/certification:** This strategy would establish a loan or grant program for training to faculty for the purposes of achieving required certifications and to stay current with industry requirements. Faculty who complete approved training programs/certificates might be relieved of all or part of training loans they receive depending on the conditions of such loans (i.e., completion of certificate/program, continued employment by the college, , etc.). Funding sources might include legislative budget requests, contributions from industry or some combination of public-private support to be administered by the system on behalf of the colleges.

**Recommendation 3: Faculty Recruitment/Industry Support: Increase the number and percentage of instructors to boost instructional capacity, including partnerships with industry and greater flexibility**. This recommendation recognizes and supports a general increase in recruitment of qualified IT instructors for the college system, but emphasizes the key role that industry can play in supporting the instructional mission of the colleges. Shortages of skilled IT professionals, high private-sector wages and low state unemployment rates have combined to hamstring even aggressive faculty recruiting efforts by colleges.

The most commonly referenced strategy for how individual colleges can support this recommendation included the following:

1. **Use loaned or contracted staffs from industry with expertise in specific IT areas to augment the instructional work of regular college faculty; provide teacher training for industry professionals:** Under this scenario, companies could directly contribute the time and expertise of skilled IT employees, who would agree to support the work of college faculty and administration, providing supplemental instruction in general IT courses and special, topic-specific areas such as newly-developed and specialized software, hardware and applications. Employers might also encourage existing employees to contract with colleges to expand the availability of part-time IT instructors. Colleges would need to provide for basic teacher training to prepare industry professionals for the classroom.

2. **Encourage industry partners to provide release time or 'industry sabbaticals' for IT professionals to teach college courses; provide teacher training:** As an extension of strategy 1, above, industry partners would grant

selected IT professionals an opportunity to go on a paid sabbatical at a college for one quarter or longer to give employees an opportunity to teach, work with faculty on new curriculum or other special projects, training teachers in new technologies, software, or other projects that support IT instruction at the college.

The most commonly-referenced system strategy for enlisting industry support for this recommendation consisted of the following:

1. **Support an industry tax credit for companies who are willing to provide paid release time to employees to teach college IT courses. Direct tax savings into IT endowment or matching fund for IT faculty:** Providing a tax credit to companies who are willing to provide employee release time for teaching introduces an added incentive for employers to allow and encourage existing employees to boost colleges' instructional capacity in IT. Companies who are willing to direct all or a portion of those savings into a system-wide endowment or matching fund program to enhance IT faculty recruitment and retention, professional development, equipment or other college-specific program needs would effectively double an employers' contribution.

**Recommendation 4: Facilities and Equipment: Increase public and private-sector support for new and upgraded facilities, equipment and program delivery methods to expand capacity, stay current with industry, and improve faculty recruitment and retention**: Expanded IT program capacity will require new investments in expanded facilities and equipment (hardware/software). Many colleges already receive generous contributions and support from employers of new and used equipment, software and upgrades, and technical support. However, the rate at which new technologies and applications are being developed and implemented within the IT industry and across all industry sectors has increased significantly over the past decade.

The most commonly referenced strategy for how individual colleges can support this recommendation included the following:

1. **Create dedicated funds to support new purchases and upgrades in hardware, software, related materials and lab techs needed to stay current with industry, promote faculty recruitment, retention:** Colleges need to dedicate funds to assure that instructional equipment reflects current industry requirements, and that additional staff and instructor time is available to support lab design, setup and equipment maintenance. The availability of dedicated funds to support equipment upgrades and routine maintenance also helps relieve existing faculty from non-instructional work and assures that they stay current with technology changes as they occur. Increases in private-sector contributions to individual colleges for this purpose would help colleges establish and maintain dedicated funding.

The most commonly-referenced system strategy for enlisting industry support for this recommendation consisted of the following:

1. **Collaborate with industry to help identify college system needs, and to build support for contributions of new equipment, software, supplies and technical support from vendors:** Regular, focused discussions between colleges and industry representatives, including individual companies, employees and industry associations, would help clarify current and future facilities and equipment needs and identify joint public and private-sector funding strategies. Collaboration among these stakeholders would also enhance college system plans for program expansion, faculty recruitment, retention, and new instructional methods such as distance learning.

**Conclusions and Next Steps:**

Closing the state's IT skills gap will require deliberate long-range planning and implementation, continued collaboration, and effective leadership from all stakeholders. This report represents the collective input and ideas of stakeholders and provides a partial blueprint for expanding the capacity of the two-year college system to help close the IT skills gap in Washington State. Additional work is needed to validate the potential of these strategies to achieve the desired results. To that end, additional follow-up discussions with stakeholder groups will be held to test the soundness of the strategies, and to consider new ideas and approaches that individual colleges and the college system can employ to ensure effective implementation.

Prepared by Alan Hardcastle, June 28, 2000

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[1] Bridging the Gap: Information Technology Skills for a New Millennium, Information Technology Association of America, 2000.
[2] American Electronics Association Higher Education Task Force, Final Report, 1999
[3] American Electronics Association Higher Education Task Force, Final Report, 1999
[4] Washington State Software Industry Challenges, Washington Software Alliance, Northwest Policy Center, University of Washington, 1998
[5] Matching Community and Technical College Information Technology Training Capacity to Employer Demand: Draft recommendations to SBCTC, Bob Larson and Associates, January 10, 2000, Page 1
[6] Washington State Software Industry Challenges, Washington Software Alliance, Northwest Policy Center, University of Washington, 1998
[7] Matching Community and Technical Colleges Professional/Technical Education Capacity to Employer Demand: Final Report for SBCTC. University of Washington, Northwest Policy Center, January 2000
[8] State Board for Community and Technical Colleges, Fall Enrollment and Staffing Report, 1999.
[9] It should be noted, however, that this estimate is based on data and assumptions that have not been thoroughly tested. Additional analysis and forecasting would be needed to substantiate this estimate.

**Attachment 1**

**Increasing Information Technology Program Capacity**
**In the Community and Technical College System**

Faculty Forum Summary

Representatives from the Washington Federation of Teachers, Washington Education Association, college vocational directors and State Board staff collaborated to design and conduct four focus group meetings directly with 75 IT faculty from across the state between April 21-26, 2000 to discuss recruitment and retention issues. Preliminary findings from those discussions included:

- Faculty reports they enjoy the teaching profession, working with students, flexible schedules, continuous learning and collegiality of the profession/campus life.
- Faculty strongly believe their compensation should more closely reflect industry rates
- Most would seriously consider leaving the college for higher paying teaching/training jobs in industry or other educational settings. Many report colleagues who have left or are planning to leave for better-paying jobs.
- Some faculty would support differential salary schedules, while others prefer ways to boost compensation that did not put them in competition with colleagues from other departments.
- Faculty recognizes the critical role that industry contributions and support plays in supporting college IT programs, but they believe additional support in many areas is needed.
- Faculty expressed concerns about increasing workloads due to faculty shortages
- Faculty reported concern about workload levels due to non-instructional duties (i.e. meetings, additional assignments, facilities/equipment)
- Faculty reported too little time and resources for professional development in their constantly changing field—faculty want to stay current with industry.

## *Top 10 Responses to IT Faculty Forum Questions*

***Q1: Why did you decide to become an instructor?***

1. Enjoy teaching and working with students
2. Reward of helping, empowering people to better their lives
3. Good at teaching, explaining complex subjects
4. Enjoy continuous learning and IT field-constantly changing
5. Ability to be creative and express that creativity
6. Autonomy/independence

7. Flexible schedule, summers off
8. Collegiality, college environment
9. Anticipated less stress than private-sector IT job
10. Get paid to learn

*Q2: What do you like most about being an instructor*

1. Personal growth in students—seeing the "light bulbs" turn on.
2. Long-term student success—getting good jobs, careers
3. Direct feedback from students—how I helped them
4. Every day is different and challenging
5. A sense of accomplishment
6. Knowing what we teach is relevant—to industry, for students
7. People I interact with–students, peers, colleagues
8. Personal control over my career—freedom to learn what I want/need.
9. Flexible work schedule
10. Career advising/placement with students

*Q3: What would you like to change about your job?*

1. Pay/benefits-compensation should be more competitive with IT industry, commensurate with workload
2. Need more faculty to expand programs, handle existing workload
3. More time and resources for professional development and upgrading courses-stay current with industry
4. Create incentive to work overtime at a premium OT rate—part-time rate is a disincentive
5. Establish contact hour equity between lecture and lab
6. Fewer non-instructional duties/responsibilities
7. Make it easier to hire qualified IT instructors
8. Recognition that IT industry is continuously changing, requiring more upgrade training than most other disciplines (i.e. academic)
9. Increases resources for up-to-date equipment, facilities for IT faculty, students
10. Funding for lab techs—equipment set-up, maintenance and support. Unpaid, extra work for IT faculty

*Q4: What factors would cause you to leave the college or your profession?*

1. Wages that do not keep pace with rising industry wages
2. Higher paying teaching/training jobs in industry or other educational settings
3. Current/increased stress and burn-out due to heavy workloads
4. Increase in non-instructional workload
5. Lack of support for upgrade training, equipment
6. Loss of independence/autonomy

7. Inability to supplement base salary
8. Lack of administrative support for IT programs
9. Lack of respect from administration/public
10. If work climate became dangerous (personal safety/violence on campus)

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